

What is claimed is:

1. An apparatus for re-routing user connections between first and second nodes in a network switch, the apparatus comprising:  
a loop-back path to provide connectivity between the first and second nodes, the first node having a primary connection and a secondary connection, the primary connection carrying the user connections during a normal mode;  
and  
a switching element coupled to the loop-back path and the first node to switch the connectivity from the primary connection to the secondary connection when there is a failure condition at the primary connection.
2. The apparatus of claim 1 wherein the loop-back path is one of a physical connection and a logical connection.
3. The apparatus of claim 2 wherein the failure condition is detected by a network monitor.
4. The apparatus of claim 3 further comprising:  
a re-route handler coupled to switching element to control the switching element based on a connectivity status between the first and second nodes, the connectivity status indicating the failure condition at the primary connection ~~between the first and second nodes.~~

5. The apparatus of claim 4 wherein the switching element switches the connectivity based on the connectivity status provided by the connectivity monitor.

6. The apparatus of claim 5 wherein the secondary connection does not carry user connections during the normal mode.

7. The apparatus of claim 6 wherein the network switch is an asynchronous transfer mode (ATM) switch.

8. The apparatus of claim 7 wherein the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch.

9. The apparatus of claim 8 wherein the network monitor is one of an operations, administration, and maintenance (OAM) monitor and a call release procedure.

10. The apparatus of claim 9 wherein the primary and secondary connections have equal connection capacity.

11. A method for re-routing connections between first and second nodes in a network switch, the method comprising:

connecting the first and second nodes by a loop-back path, the first node having a primary connection and a secondary connection, the primary connection carrying user connections during a normal mode; and

switching the connectivity from the primary connection to the secondary connection by a switching element when there is a failure condition at the primary connection.

12. The method of claim 11 wherein the loop-back path is one of a physical connection and a logical connection.

13. The method of claim 12 wherein the failure condition is detected by a network monitor.

14. The method of claim 13 further comprising:  
controlling the switching element by a re-route handler based on a connectivity status between the first and second nodes provided by the network monitor, the connectivity status indicating the failure condition at the primary connection between the first and second nodes.

15. The method of claim 14 wherein the switching element switches the connectivity based on the connectivity status provided by the network monitor

16. The method of claim 15 wherein the secondary connection does not carry user connections during the normal mode.

17. The method of claim 16 wherein the network switch is an asynchronous transfer mode (ATM) switch.

18. The method of claim 17 wherein the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch.

19. The method of claim 18 wherein the network monitor is one of an operations, administration, and maintenance (OAM) monitor and a call release procedure.

20. The method of claim 19 wherein the primary and secondary connections have equal connection capacity.

21. A computer program product comprising:  
a computer usable medium having computer program code embodied therein for re-routing connections between first and second nodes in a network switch, the computer program product having:  
computer readable program code for connecting the first and second nodes by a loop-back path, the first node having a primary connection and a secondary connection, the primary connection carrying user connections during a normal mode; and  
computer readable program code for switching the connectivity from the primary connection to the secondary connection by a switching element when there is a failure condition at the primary connection.

22. The computer program product of claim 21 wherein the loop-back path is one of a physical connection and a logical connection.

23. The computer program product of claim 22 wherein the failure condition is detected by a network monitor.

24. The computer program product of claim 23 further comprising:  
computer readable program code for controlling the switching element by  
a re-route handler based on a connectivity status between the first and second  
nodes provided by the network monitor, the connectivity status indicating the  
failure condition at the primary connection between the first and second nodes.

25. The computer program product of claim 24 wherein the switching  
element switches the connectivity based on the connectivity status provided by  
the network monitor.

26. The computer program product of claim 25 wherein the secondary  
connection does not carry user connections during the normal mode.

27. The computer program product of claim 26 wherein the network  
switch is an asynchronous transfer mode (ATM) switch.

28. The computer program product of claim 27 wherein the primary  
and secondary connections correspond to a virtual path connection (VPC) in the  
ATM switch.

29. The computer program product of claim 28 wherein the network  
monitor is one of an operations, administration, and maintenance (OAM)  
monitor and a call release procedure.

30. The computer program product of claim 29 wherein the primary  
and secondary connections have equal connection capacity.

31. A system comprising:  
first and second nodes to carry user connections in a network switch; and  
a circuit coupled to the first and second nodes to re-route the user  
connections between first and second nodes, the circuit comprising:

a loop-back path to provide connectivity between the first and  
second nodes, the first node having a primary connection and a secondary  
connection, the primary connection carrying the user connections during  
a normal mode; and

a switching element coupled to the loop-back path and the first  
node to switch the connectivity from the primary connection to the  
secondary connection when there is a failure condition at the primary  
connection.

32. The system of claim 31 wherein the loop-back path is one of a  
physical connection and a logical connection.

33. The system of claim 32 wherein the failure condition is detected by  
a network monitor.

34. The system of claim 33 wherein the circuit further comprises:  
a re-route handler coupled to the switching element to control the  
switching element based on a connectivity status between the first and second  
nodes, the connectivity status indicating the failure condition at the primary  
connection between the first and second nodes.

35. The system of claim 34 wherein the switching element switches the  
connectivity based on the connectivity status provided by the network monitor.

36. The system of claim 35 wherein the secondary connection does not carry user connections during the normal mode.

37. The system of claim 36 wherein the network switch is an asynchronous transfer mode (ATM) switch.

38. The system of claim 37 wherein the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch.

39. The system of claim 38 wherein the network monitor is one of an operations, administration, and maintenance (OAM) monitor and a call release procedure.

40. The system of claim 39 wherein the primary and secondary connections have equal connection capacity.

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